

## OIB - DC-8 11/10/14 Science Report

**Aircraft:**

[DC-8](#) ([See full schedule](#))

**Date:**

Monday, November 10, 2014

**Mission:**

OIB

**Mission Location:**

Antarctica

**Mission Summary:**

### F15 South Peninsula

**Accomplishments**

- Low-altitude survey (1,500 ft AGL) over the southern Peninsula.
- ATM, albedo, KT-19, snow, Ku-band, MCoRDS, gravimeter, and DMS were operated on the survey lines.
- Collected additional high altitude data on transits to and from the survey area.
- Ramp pass at Punta Arenas airport after takeoff at 1,300 ft AGL.
- Satellite tracks: none.
- Repeat Mission: 2011.

Instrument	Operated	Data Volume	Instrument Issues/Comments
ATM	yes	56 GB	None.
CAMBOT	yes	86 GB	None.
DMS	yes	120 GB	None.
Snow Radar	yes	616 GB	None.
Ku-band Radar	yes	616 GB	None.
MCoRDS	yes	2.1 TB	None.
KT-19	yes	10 MB	None.
Albedo	yes	4.4 GB	None.
Albedo camera	yes	580 MB	None.
Gravimeter	yes	1.8 GB	None.

**Mission Report (Michael Studinger, Mission Scientist)**

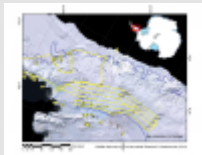
Today's flight is primarily a repeat flight, designed to assess  $dh/dt$  of four glaciers draining the Dyer Plateau. These are the Fleming, Maitland, Lurabee, and Clifford glaciers. We also re-fly a portion of the grounding line along the George VI Ice Shelf, which was last flown in 2011. Finally we establish a new grid uphill from the grounding line on the west side, with grid lines spaced at 20 km. This grid is intended to assess  $dh/dt$  in this area, and on its south end it connects with a similarly-designed grid in the English Coast 03 flight. The Fleming Glacier lines in this mission are supplemented by a 10 km grid over Fleming in the Alexander-Fleming flight.

The AMPS and GFS models predicted some patchy low clouds on the east side of the Peninsula, small enough to launch the mission (Fig. 2). The conditions in the survey area were exactly what we had expected.

LiDAR data collection started 11/10/2014 14:22 UTC and ended at 21:04 UTC. In total we collected 6.7 hours of LiDAR data. Conditions in the survey area were nearly perfect. Other than some small patches of low clouds on the east side of the Peninsula ATM and DMS were not impacted by low clouds.

**Images:**

**Figure 1: Today's trajectory in yellow.**



[Read more](#)

**Figure 2: DMS image mosaic of a small glacier showing some low clouds.**



[Read more](#)

**Submitted by:**

Michael Studinger on 11/10/14

**Related Flight Report:**

## DC-8 11/10/14

**Flight Number:**

150122

**Payload Configuration:**

Operation IceBridge 2014

**Nav Data Collected:**

Yes

**Total Flight Time:**

11.2 hours

**Submitted by:**

Frank Cutler on 11/11/14

**Flight Segments:**

<b>From:</b>	SCCI	<b>To:</b>	SCCI
<b>Start:</b>	11/10/14 12:18 Z	<b>Finish:</b>	11/10/14 23:31 Z
<b>Flight Time:</b>	11.2 hours		
<b>Log Number:</b>	<a href="#">158003</a>	<b>PI:</b>	Michael Studinger
<b>Funding Source:</b>	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
<b>Purpose of Flight:</b>	Science		
<b>Comments:</b>	Purpose of Flight: OIB 2014 Science Flight ? South Peninsula at 1,500 ft AGL Aircraft Status: Airworthy Sensor Status: All instruments operated Significant Issues: None Accomplishments: Takeoff at 314 12 18 13 Land 314 23 31 53 After takeoff accomplish a calibration ramp pass at 1225Z and 1300?agl. Climb to transit altitude of FL330. Start descent at 1417Z. Flight area was the Larson D Ice Shelf area and southwestern peninsula areas. Start data lines at 1439Z and complete at 2045Z. Climb to FL390 for transit to SCCI. Planned events: Continue science flights out of Punta Arenas, Chile		

**Flight Hour Summary:**

					<b>158003</b>
<b>Flight Hours Approved in SOFRS</b>					300
<b>Total Used</b>					292.1
<b>Total Remaining</b>					7.9
<b>158003 Flight Reports</b>					
<b>Date</b>	<b>Flt #</b>	<b>Purpose of Flight</b>	<b>Duration</b>	<b>Running Total</b>	<b>Hours Remaining</b>
<a href="#">10/06/14</a>	150101	Science	1.2	1.2	298.8

<a href="#">10/07/14 - 10/08/14</a>	150102	Science	5.2	6.4	293.6
<a href="#">10/08/14</a>	150103	Science	3.7	10.1	289.9
<a href="#">10/13/14</a>	150104	Transit	10.4	20.5	279.5
<a href="#">10/13/14</a>	150105	Transit	3.2	23.7	276.3
<a href="#">10/16/14</a>	150106	Science	11	34.7	265.3
<a href="#">10/18/14 - 10/19/14</a>	150107	Science	11.9	46.6	253.4
<a href="#">10/20/14</a>	150108	Science	11.7	58.3	241.7
<a href="#">10/23/14</a>	150109	Science	11.8	70.1	229.9
<a href="#">10/25/14</a>	150110	Science	11.4	81.5	218.5
<a href="#">10/26/14 - 10/27/14</a>	150111	Science	11.9	93.4	206.6
<a href="#">10/28/14</a>	150112	Science	11.5	104.9	195.1
<a href="#">10/29/14</a>	150113	Science	10.9	115.8	184.2
<a href="#">10/31/14</a>	150114	Maintenance	2.8	118.6	181.4
<a href="#">11/01/14</a>	150115	Maintenance	3	121.6	178.4
<a href="#">11/02/14</a>	150116	Science	10.9	132.5	167.5
<a href="#">11/03/14</a>	150117	Science	11.1	143.6	156.4
<a href="#">11/05/14</a>	150118	Science	11.4	155	145
<a href="#">11/06/14</a>	150119	Science	11.1	166.1	133.9
<a href="#">11/07/14</a>	150120	Science	10.9	177	123
<a href="#">11/08/14</a>	150121	Science	11.4	188.4	111.6
<a href="#">11/10/14</a>	150122	Science	11.2	199.6	100.4
<a href="#">11/11/14</a>	150123	Science	11.2	210.8	89.2
<a href="#">11/13/14</a>	150124	Science	11.4	222.2	77.8
<a href="#">11/14/14</a>	150125	Science	11.5	233.7	66.3
<a href="#">11/15/14</a>	150126	Science	11.2	244.9	55.1
<a href="#">11/16/14</a>	150127	Science	11.1	256	44
<a href="#">11/21/14</a>	150128	Science	11.2	267.2	32.8
<a href="#">11/22/14</a>	150129	Science	10.8	278	22
<a href="#">11/24/14</a>	150130	Transit	2.9	280.9	19.1
<a href="#">11/25/14 - 11/26/14</a>	150131	Transit	11.2	292.1	7.9

*Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.*

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